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NASA's Gravity Probe B Satellite Launched

After a 24-hour delay, NASA's Gravity Probe B (GP-B) spacecraft, that will test Einstein's theories of the universe, was successfully launched on April 20 at 12:57 p.m. EDT from Vandenberg Air Force Base on a Delta II rocket and has reached orbit.

GP-B is the relativity gyroscope experiment developed by NASA and Stanford University to test two extraordinary, unverified predictions of Albert Einstein's general theory of relativity.

The experiment will check, very precisely, tiny changes in the axis of spin of four gyroscopes contained in an Earth satellite orbiting at 400-mile altitude directly over the poles.

So free are the gyroscopes from disturbance that they will provide an almost perfect space-time reference system. They will measure how space and time are warped by the presence of the Earth, and, more profoundly, how the Earth's rotation drags space-time around with it.

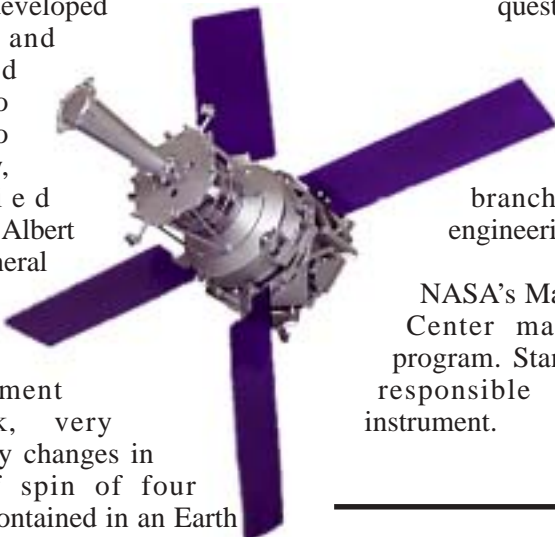
These effects, though small for the Earth, have far-reaching implications for the nature of matter and the structure of the Universe.

Gravity Probe A (GP-A) was launched June 18, 1976, from Wallops Island on a four stage Scout D sounding rocket and was a joint program of NASA Marshall Space Flight Center and the Astrophysical Observatory of the Smithsonian Institution. The clock-carrying space probe (atomic clock)

was the first test in space to explore the structure of space and time.

Gravity Probe B is among the most thoroughly researched programs ever undertaken by NASA. This is the story of a scientific quest in which physicists and engineers have collaborated closely over many years. Inspired by their quest, they have invented a whole range of new technologies — technologies that are already benefiting other branches of science and engineering.

NASA's Marshall Space Flight Center manages the GP-B program. Stanford University is responsible for the science instrument.



Join in the Earth Day Celebration!

There'll be booths from the Salisbury Zoo, the Marine Science Consortium, Maryland Coastal Bays, the Chincoteague Garden Club, and the Chesapeake Bay Foundation. See exhibits about trees, recycling, and the Wallops' Environmental Management System. Ponder the Earth-Mars comparison (one is bone-dry, one has "got water", come and find out which is which!).

There'll be give-aways including water bottles and rain gauges. There also will be a drawing for an electro-magnetic levitating globe.

WEMA is providing refreshments. A hot dog or kielbasa, soda and bag of chips for only \$2.50. Come over to the Picnic Pavilion between 11 a.m. and 2:30 p.m., Thursday, April 22

Terrier-Improved Orion Launched from White Sands

A NASA Terrier-Improved Orion sounding rocket was launched from the White Sands Missile Range, N.M., on April 13.

The mission was to evaluate the pointing accuracy of the NASA Sounding Rocket Operations Contract (NSROC) Inertial Attitude Control System (NIACS), attitude determination ability of ST-5000 star tracker, gather environmental data set on the Terrier-Mk 70-Improved Orion

vehicle and provide a platform for the piggyback bit-sync decom uplink, Iridium flight modem and a bacteria re-entry survival experiment.

The NIACS performance appeared to exceed the estimated nominal. Good data was received from telemetry. The piggyback experiments appeared to function nominally.

Ted Gass, NSROC, was the mission manager.

Wallops Shorts.....

In the New

The Daily Times

"Rocketry Club Members Could Land in Finals"

On the Road

Geoff Bland, NASA Observational Science Branch, was the keynote speaker for the Northeast Region Student AIAA Conference held at Boston University on April 3. The subject was "UAVs for Earth Science".

Paula Washington, NASA Mechanical Systems Branch, spoke to parents in the Parent Café about the challenges she has found in her new job with NASA as an Aerospace Engineer.



Paula Washington

She shared her educational background and advice for motivating their children in the fields of science and mathematics.

The Parent Café program exposes parents to what their children are learning in NASA's Science Engineering Mathematics Aerospace Academy, (SEMAA), held at Mary N. Smith Middle School in Accomac, Va. SEMAA is sponsored by NASA and the University of Maryland, Eastern Shore and is supported by the Wallops Black History Club.

John Brinton, NASA Sounding Rocket Program Office, participated in the judging of the Worcester County Tech Fest 2004 at Berlin Intermediate School, Berlin, MD., on April 13.

Ed Parrott, Teacher-on-Loan, and Keith Koehler, NASA Public Affairs Office, visited the Prince Street Elementary School on April 15.

Jack Vieira, NASA Range and Mission Management Office, was a judge for the Pocomoke Middle School Science Fair held April 17.

Ed Parrott, Keith Koehler and Caroline Turner, EG&G, participated in Earth Day Activities at the Salisbury Zoo on April 17.

**April 21 is Administrative Professionals Day
Thanks for a great job!**

Earth Day Celebration
April 24

The NASA Visitor Center will celebrate Earth Day on April 24 with a host of scheduled programs that will run throughout the day.

- 10 a.m. Marsh Walk
- 11 a.m. "Feathers"
- Noon Native flower planting
- 12:30 p.m. Reading of Dr.Seuss' "The Lorax"
- 1 p.m. "Life on Earth" Bingo
- 2 p.m. "The Power of Plankton"
- 3 p.m. "Secret Worlds: The Universe Within"
- 3:30 p.m. "Sun-Earth Connections"



Ongoing Earth Day activities and exhibits include:

- Wetland Scavenger Hunt
- Visitor Center Trash Pickup
- "Schoolhouse Rocks"
- "From Earth or Space?"

The Visitor Center is open Thursday through Monday from 10 a.m. to 4 p.m. Admission to Visitor Center programs is free.

For further information contact Deanna Shreves on x1148.

Upcoming Training
NASA STARS Resume Writing
E-104, Room 308
April 21 -- 1 to 3 p.m.

Description:
NASA's Staffing and Recruitment System (NASA STARS) is the method used by applicants to apply for jobs throughout NASA. This workshop includes a brief overview of NASA STARS, as well as tips for writing Federal resumes. Also included is a demo of the NASA STARS Resume Builder and the NASA Jobs web site.

- You will learn
- How to describe your experience using a "whole person" Federal resume
 - How to access and use the NASA STARS Resume Builder
 - How to search for jobs within NASA

To register contact Pat Dworske on x2394 or by email:
Patricia.J.Dworske@nasa.gov

Lightning Safety
by Stan Williams



Understanding lightning hazards and how to protect yourself from dangerous lightning situations could save your life!

Lightning is divided into two general types: 1) cloud to ground, and 2) within-cloud lightning.

Most people hit by lightning survive, but suffer what is most often referred to as a "side flash". In addition to sometimes being fatal, a "side flash" can cause injury, blindness or deafness. Side flashes are most common outdoors, but can happen through telephones, electrical appliances, and water pipes connected to sinks, showers or baths.

To protect yourself from dangerous lightning situations:

Plan ahead. Decide in advance where to take shelter when it is necessary. Watch for storms rapidly growing before it's too late to take shelter. Listen to NOAA radio, commercial radio, or television for the latest weather forecasts.

A suitable shelter is considered a sturdy non-conducting (not metal) building or the enclosed cab of a vehicle that has a metal top. Do not come in contact with any metal on the building or the vehicle.

Remember, if you can hear thunder, you are close enough to the storm to be struck by lightning. If caught outside, don't be the tallest object. Stay away from trees, poles or other isolated tall objects. Don't stand in open areas such as a field, golf course, or stadium.

Don't touch anything that could conduct electricity. Stay off the telephone and out of the bathtub/shower. Electricity can travel through wires and plumbing. Stay away from wire fences and water. These can transmit current from a distant lightning strike. Don't ride in open vehicles such as ATVs, open tractors or horseback.

When lightening threatens and you can not reach a suitable shelter assume what is considered the "lightning safe position": crouch on the ground with your weight on the balls of your feet, feet together, head lowered and ears covered. You should never lie flat on the ground.

Lightning is one of nature's most spectacular displays. Understanding the hazards of lightning, practicing safety to protect yourself from those hazards and using common sense can prevent injury or death.

WEMA Events
Every Monday and Wednesday
Wallops Music Club
5 p.m.
In Building F-3

Players, Singers, and Listeners all welcome!

Contact Chip Blackwell on x1481 for more information.

Every Wednesday
Unplugged Music Club
Lunchtime
11:30 a.m.-12:30 p.m.
In the back of Building F-3

Bring your instruments, your voices, your ears - come sit and pick awhile!

For more information, contact Ron Simko at x2053 or by email: rsimko@scsc.wal.nswc.navy.mil

Every Wednesday
Dart League
5:30 p.m.
In Building F-3

Contact Rob Cass on x2376 for more information.

Delmarva Shorebird
Tickets

Available at the Exchange Store, Building E-2.



Call Karen Montross on x 2020 for more information

Sam's Club Memberships
A Sam's representative will be available in the Building E-2 conference room for new memberships and renewal of memberships

April 28 -- 11 a.m. to 1 p.m.

Contact Karen Thornes on x2040 for more information

For Rent In Ocean City
Mariners Wharf Condominium, Edgewater Avenue, between 12th and 13th streets. Sleeps 6. Two bedrooms, 2 full baths, fully equipped kitchen, washer and dryer. Balcony overlooks the harbor. For further information call Monica on (410) 543-0605

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found on the NASA Wallops Flight Facility homepage: www.wff.nasa.gov

Editor

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